



DEPARTMENT OF THE AIR FORCE
HEADQUARTERS UNITED STATES AIR FORCE
WASHINGTON DC

13 Apr 01

MEMORANDUM FOR SEE DISTRIBUTION

FROM: HQ USAF/ILE
1260 Air Force Pentagon
Washington DC 20330-1260

SUBJECT: Graduate Education Committee Minutes - 13 Mar 01

The Office of the Civil Engineer hosted a video teleconference (VTC) for the Graduate Education Committee (GEC) on 13 Mar 01. The meeting was opened at approximately 1315 hrs after resolving some technical difficulties. Mr. Aimone (AF/ILE-2) chaired the first half of the meeting. Col Byers (AF/ILEX) assumed the chair upon Mr. Aimone's departure. The list of attendees is at Atch 1.

Welcome and Introductions. Maj Ordner (AF/ILEXO) verified attendance and ensured all MAJCOMs were represented. Col Byers opened the meeting with a brief welcome. He presented the overview that is located on the second slide of briefing slides at Atch 3. Col Byers then turned the floor over to Mr. Aimone (committee chairman) for opening remarks.

CE Education and Training Review Process. After the opening remarks, Maj Ordner provided a brief presentation of the CE education and training process as defined by the charter. The presentation included a summary of the objectives of each tier that includes the Education Working Groups, Utilization and Training Workshops, Education and Training Review Committees (ETRCs), and the Program Review Committee (PRC) as well as the structure of the process. Maj Ordner pointed out the PRC is scheduled for 28 Jun 01 at Hurlburt AFB.

Air Force Education and Review Board (AFERB) Results. Maj Ordner provided a presentation borrowed from the AFERB. He described the Graduate Education Management System (GEMS), AFERB process, and the AFERB results. The AFERB process milestone dates are located on slide 12 of Atch 3. The Advanced Academic Degree (AAD) position validation and quota request steps were highlighted for emphasis as areas we need to concentrate on in order to improve our internal functional process. In FY02, the MAJCOMs originally identified 68 student man-years requiring AADs in the civil engineer functional area. The AFERB recognized civil engineering for reducing our requirement to 22 quotas (includes 1 PhD) and assisting the AFERB in meeting total force allocation of 822.4 student man-years. The 22 quotas in FY02 is a reduction from the 24 quotas the AFERB approved in FY01. Maj Ordner concluded the AFERB portion of the presentation by crediting the new leadership within DP for revamping the AFERB process. Improvements include senior leadership's emphasis in filling more engineering quotas, reallocating unfilled quotas, and tracking the utilization of the graduates. Another improvement is the proposal to "reengineer" GEMS in order to predict future

requirements as opposed to relying on historical data. We are currently using FY01 data to define FY03 quota requirements that will be filled by graduates in FY05 and we would rather develop a process to define future requirements.

PRC Action Item 00-06. Only one action item applied to the GEC and that item was to convene a working group to develop a long-term strategy for educating and training CE officers. Mr. Ralph Gruber who facilitated the working group in Oct 00 presented the issue and the findings. A short synopsis of the findings revealed the existing strategy defined in the *Career Field Education and Training Plan (CFETP)* provides the appropriate developmental strategy. The working group provided no significant changes to the CFETP. The acting chairman asked AFCESA to send the final report and presentation to the MAJCOM/CEs for review and comment. AFCESA will give the presentation (to include MAJCOM/CEs' comments) to the PRC in an effort to close this action item. Col Parker (AFSPC/CE-2) questioned how well the report addressed the Graduate Education Program. This question initiated greater discussion which transitioned to the next topic, the Graduate Environmental and Engineering Management (GEEM) program brief.

GEEM Program Brief. Lt Col Thal (AFIT/ENV) continued the discussion about the GEEM program with his presentation (Atch 4). The committee gained insight into the GEEM program and the two application sequences, Engineering Management and Environmental Management. Lt Col Thal's presentation partially satisfied the GEC Action Item 00-4, which called for an update to the MAJCOMs on the GEEM program curriculum changes. The acting chairman asked AFIT/ENV to provide an electronic copy of the presentation to MAJCOM/CEs in order to close the action item. Discussion continued as Col Sweat (ACC/CE-2) briefed a proposal calling for a complete review of the GEEM program to reflect a balance of all engineering programs (Atch 5). Col Strom (AFCEE) added the review should include emphasis in project management and sustainable development/design. He further explained this emphasis would be more applicable to the areas of concentration and experience required of the officers in the CE career field. Mr. Applegate (AFSOC/CEV) also asked for a review of the math requirement entrance standard in order to increase the number of applicants and in case the degree becomes more management focused instead engineering or environmental focused. The committee had no objections when the acting chairman proposed GEC **Action Item 01-01**, to conduct an IPT for the complete review (with a timeline) of the AFIT CE AAD program. OPR is AFIT/ENV and OCR is ACC/CE-2.

GEC Action Items. Lt Col Thal continued his presentation and transitioned to the GEC Action Items for which AFIT/ENV was the OPR (00-4 and 00-5). Maj Ordner then returned to the briefing slides to brief action items 00-1 through 00-3. All action items from the 2000 GEC were closed with no objections (Atch 2). Brief points from the discussion of each action item follows:

GEC AI 00-4 -- Update of GEEM program curriculum changes and review. Lt Col Thal satisfied the requirement to brief the GEEM program changes and review to the MAJCOMs during his presentation (Atch 4). The GEEM program was compared to leading programs across the nation and revealed a wide variety of programs and some common themes. Col Byers asked Lt Col Thal to send the briefing to the MAJCOM/CEs to close the action item.

GEC AI 00-5 -- Examine methods of distributing the call for thesis topics and research results to the CE community. Lt Col Thal will add more names/offices to the distribution list for future thesis topic calls and will e-mail abstracts, publish announcements in *The CE* magazine, and update the web page. The committee agreed to close the action item.

GEC AI 00-1 -- GEC members will review letter encouraging the AFIT assignment opportunity and the list of targeted officers who receive them. ILEXO e-mailed letter and list of officers to GEC members on 25 Jan 01. ILE-2 closed the item on 13 Feb 01.

GEC AI 00-2 -- Examine feasibility of Guard and Reserve forces attending the AFIT program. Maj Ordner said AF/DP believed Guard and Reserve members should be permitted to attend AFIT as long as the graduates fulfill the resulting graduation commitment. Mr. Culpepper (AFRC/CE-2) said some Reserve members are interested in the program. Lt Col Mastrangeli (AF/ILEXR) said Guard members might not be as willing to move, but may be interested in attending. The method of funding was mentioned as a concern. We concluded the discussion with a consensus to include Guard and Reserve candidates in the application process and closed the action item.

GEC AI 00-3 -- AAD guidance letter. Guidance was developed during a GEC working group meeting in Oct 99. A draft policy letter was attached to the 2000 GEC minutes and ILEXO did not receive comments after the minutes were reviewed. ILEXO will staff the AAD guidance letter to coincide with the release of AF/DP's FY03 AFERB data call and AAD validation memo in Mar 01. A copy of the letter is located at Atch 8. Action item will be officially closed upon release of the AAD guidance letter.

CE Worldwide Action Item 00-05. This action item was initiated at the CE Worldwide conference in Nov 00. The item called for identifying ways to increase participation in the GEEM program and to develop a plan of action. In between the presentation of the GEC action items, Lt Col Thal provided an update on this action item. Efforts include personal memos from ILE to MAJCOM/CEs and officer candidates, case by case review of applications, and greater publicity. The proposed article in *The CE* magazine should include an explanation of the undergraduate math requirements required to become eligible to attend AFIT. Ms. Perritt (AFPC/DPKCE) commented the main issue about having civilians attend AFIT would be the funding aspect. A recommendation to close this action item will occur at the 2001 PRC.

MAJCOM Inputs. We received three issues for new business. The first issue was the proposal to change the AFIT Graduate Education Degree program that was discussed after the GEEM presentation referenced above. Lt Col Won (USAFA/DFCE) presented the second issue proposing appropriate ETRC review of the USAFA programs. Lt Col Won provided a revised BBP on the USAFA programs to be published in the minutes (Atch 6). A proposal to rename the "Graduate Education Committee" to "Academic Degree Committee" will be submitted to the PRC in order to include the review of the undergraduate USAFA programs. Maj Ordner presented the last issue, a proposal for a CE AAD selection board (Atch 7). Col Byers asked AETC to review/comment on the proposal before the plan is executed for the FY02 selection period. He also invited other comments from the MAJCOMs before we hold a selection board. During draft minutes review, Maj Murphy (AFPC/DPASB) expressed the desire for his office to determine the primary and alternate candidates to attend AFIT in order to instill overall assignment flexibility into the selection process. Under this plan, the GEC would then approve

the list of primary and alternate candidates. Details of the selection board process will be defined further prior to implementation. We have not received additional comments as of the date that the minutes were signed.

The meeting concluded with an announcement for the Company Grade Officer Forum scheduled for 29 May 01 at Nashville, TN to coincide with the SAME National conference. Education and training is an agenda item as well as the other current developments in the career field. Col Byers asked if anyone had additional issues to discuss. No comments were noted and the meeting was adjourned.

//signed//

MICHAEL A. AIMONE, P.E.
The Deputy Civil Engineer
DCS/Installations & Logistics

Attachments:

1. Attendee List
2. Action Items
3. Briefing Slides
4. GEEM Presentation
5. BBP (Changing AFIT Grad Ed Degree Pgm)
6. BBP (USAFA Programs)
7. BBP (CE AAD Selection Board)
8. ILE Memo (AAD Guidance)

Distribution List:

HQ ACC/CE-2/CEO
HQ AETC/CEOX
HQ AFMC/CE-2
HQ AFRC/CE-2
HQ AFSOC/CEV
HQ AFSPC/CE-2/CEPX
HQ AMC/CEO
HQ ANG/CE
HQ PACAF/CE-2/CEOS
HQ USAFE/CEX
HQ USAFE/EC
HQ AFCESA/CEOT
HQ AFPC/DPKCE/DPASB
HQ USAFA/DFCE
AFIT/ CE/ENV

2001 GEC Attendees

MAJCOM	OFFICE	RANK	NAME	DSN	EMAIL	MODE
HQ USAF	ILE-2	SES	Michael A.Aimone	327-0210	michael.aimone@pentagon.af.mil	Audio
HQ USAF	ILEX	Colonel	Tim Byers	664-4722	timothy.byers@pentagon.af.mil	VTC
HQ USAF	ILEXO	Lt Col	Mike Conner	664-3632	michael.conner@pentagon.af.mil	VTC
HQ USAF	ILEXO	Maj	Anthony Ordner	664-4747	anthony.ordner@pentagon.af.mil	VTC
HQ ACC	CE-2	Colonel	Dave Sweat	574-2001	david.sweat@langley.af.mil	VTC
HQ ACC	CEO	GS-15	Paul Parker	574-3024	paul.parker@langley.af.mil	VTC
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HQ AFMC	CE-2	Colonel	Tad Stanley	787-6576	tad.stanley@wpafb.af.mil	VTC
HQ AFRC	CE-2	GS-15	Hilton Culpepper	497-1102	hilton.culpepper@afrc.af.mil	Audio
HQ AFSOC	CEV	GS-15	Michael Applegate	579-2977	michael.applegate@hurlburt.af.mil	Audio
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HQ AFSPC	CEPX	CMSgt	Jim Reps	692-5309	jim.reps@peterson.af.mil	VTC
HQ AFSPC	CEPX	Mr.	J.J. Grueter	692-9827	john.grueter@peterson.af.mil	VTC
HQ AMC	CEO	Colonel	Michael Fitz	576-3143	michael.fitz@scott.af.mil	VTC
HQ ANG	HQ USAF/ILEXR	Lt Col	Mario Mastrangeli	664-2563	mario.mastrangeli@pentagon.af.mil	VTC
HQ PACAF	CE-2	Colonel	William Drake	449-5234	william.drake@hickam.af.mil	VTC
HQ PACAF	CEOS	GS-12	Abby Nishida	449-2909	abigail.nishida@hickam.af.mil	VTC
HQ USAFE	CEX	Maj	Bart Barnhart	480-6726	barton.barnhart@ramstein.af.mil	VTC
HQ AFCEE	EC	Colonel	Randie Strom	240-3907	randie.strom@hqafcee.brooks.af.mil	VTC
HQ AFCESA	CEOT	GS-12	Ralph Gruber	523-6181	ralph.gruber@tyndall.af.mil	VTC
HQ AFPC	DPKCE	GS-14	Laura Perritt	665-2799	laura.perritt@afpc.randolph.af.mil	VTC
HQ AFPC	DPASB	Maj	Brian Murphy	665-3452	brian.murphy@afpc.randolph.af.mil	Audio
HQ USAFA	DFCE	Colonel	Gregory Seely	333-9194	gregory.seely@usafa.af.mil	VTC
HQ USAFA	DFCE	Lt Col	Adrian Won	333-9194	adrian.won@usafa.af.mil	VTC
AFIT	CE	Colonel	Joseph Amend	785-2004	joseph.amend@afit.af.mil	VTC
AFIT	ENV	Lt Col	Al Thal, Jr.	785-2998	alfred.thal@afit.af.mil	VTC

GRADUATE EDUCATION COMMITTEE ACTION ITEMS

<i>2000 Graduate Education Committee Action Items</i>					
<i>NO</i>	<i>OPEN ITEMS</i>	<i>OPR</i>	<i>OCR</i>	<i>ECD</i>	<i>STATUS</i>
1	All MAJCOM/FOA Graduate Education Committee representatives will review letter and list of selected junior officers who will receive them.	ILEXO	MAJCOMs	Closed (Feb 01)	Action item created at 4 Apr 00 Meeting. ILEXO e-mailed letter and list of 18 selected junior officers who received them on 25 Jan 01 to the GEC members/attendees from the 2000 GEC. Note: list does not include officers who previously submitted an application. Closed 13 Feb 01.
2	Examine the feasibility of Guard and Reserve forces attending the AFIT program.	ILEXO	AFRC ANG	Closed (Mar 01)	Action item created at 4 Apr 00 meeting. AF/DPDE supports initiative to fill quotas with ANG and AFRC officers as long as they fulfill the service comment. Both GEC ANG and AFRC said some officers may be interested in the program. Opportunity to attend AFIT will be extended to ANG and AFRC officers during the next selection cycle. Closed 13 Mar 01.
3	Develop a policy letter supplying supplemental guidance on coding AAD billets for MAJCOMs	ILEXO	MAJCOMs	Closed (Mar 01)	Action item created at 4 Apr 00 meeting. Draft policy letter included in 2000 GEC minutes for MAJCOM review. ILE will release letter to coincide with the FY03 AFERB data call and AAD validation memo. Policy is based on the recommendations from 1999 GEC working group. Closed 13 Mar 01.
4	AFIT GEEM department in the midst of discussing curriculum changes and reviewing balances in the program. AFIT will provide update of these changes to the MAJCOMs.	AFIT/ENV	ILEXO	Closed (Mar 01)	Action item created at 4 Apr 00 meeting. Recent changes AFIT/ENV presented recent curriculum changes to GEC on 13 Mar 01. Closed 13 Mar 01.
5	Examine methods of distributing the research topics and thesis efforts to the CE community.	AFIT/ENV	ILEXO	Closed (Mar 01)	Action item created at 4 Apr 00 meeting. AFIT/ENV presented improved distribution method to GEC on 13 Mar 01. AFIT/ENV will add more names/offices

GRADUATE EDUCATION COMMITTEE ACTION ITEMS

					(including MAJCOM/CEs) to the call for thesis topics memo. AFIT/ENV will also e-mail abstracts of research results to MAJCOM/CEs, update the web page, and publish an article in <i>The CE</i> magazine. Closed 13 Mar 01.
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<i>2001 Graduate Education Committee Action Items</i>					
<i>NO</i>	<i>OPEN ITEMS</i>	<i>OPR</i>	<i>OCR</i>	<i>ECD</i>	<i>STATUS</i>
1	Conduct an IPT to review the GEEM Program to ensure a balanced curriculum to cover all CE programs	AFIT/ENV	ACC/CE	Open (Jan 02)	Action item created at 13 Mar 01 meeting.

Headquarters U.S. Air Force

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Graduate Education Committee

Major Anthony Ordner

AF/ILEXO

13 Mar 01



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- **Welcome/Introductions (ILE-2 & ILEX)**
- **CE Education and Training Review Process (ILEXO)**
- **Air Force Education Requirements Board (AFERB) Results (ILEXO)**
- **PRC Action Item (ILEXO)**
- **Grad Ed Action Items (ILEXO)**
- **GEEM Program Brief (AFIT/ENV)**
- **MAJCOM/FOA Inputs**
- **General Discussion**



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Welcome and Introductions



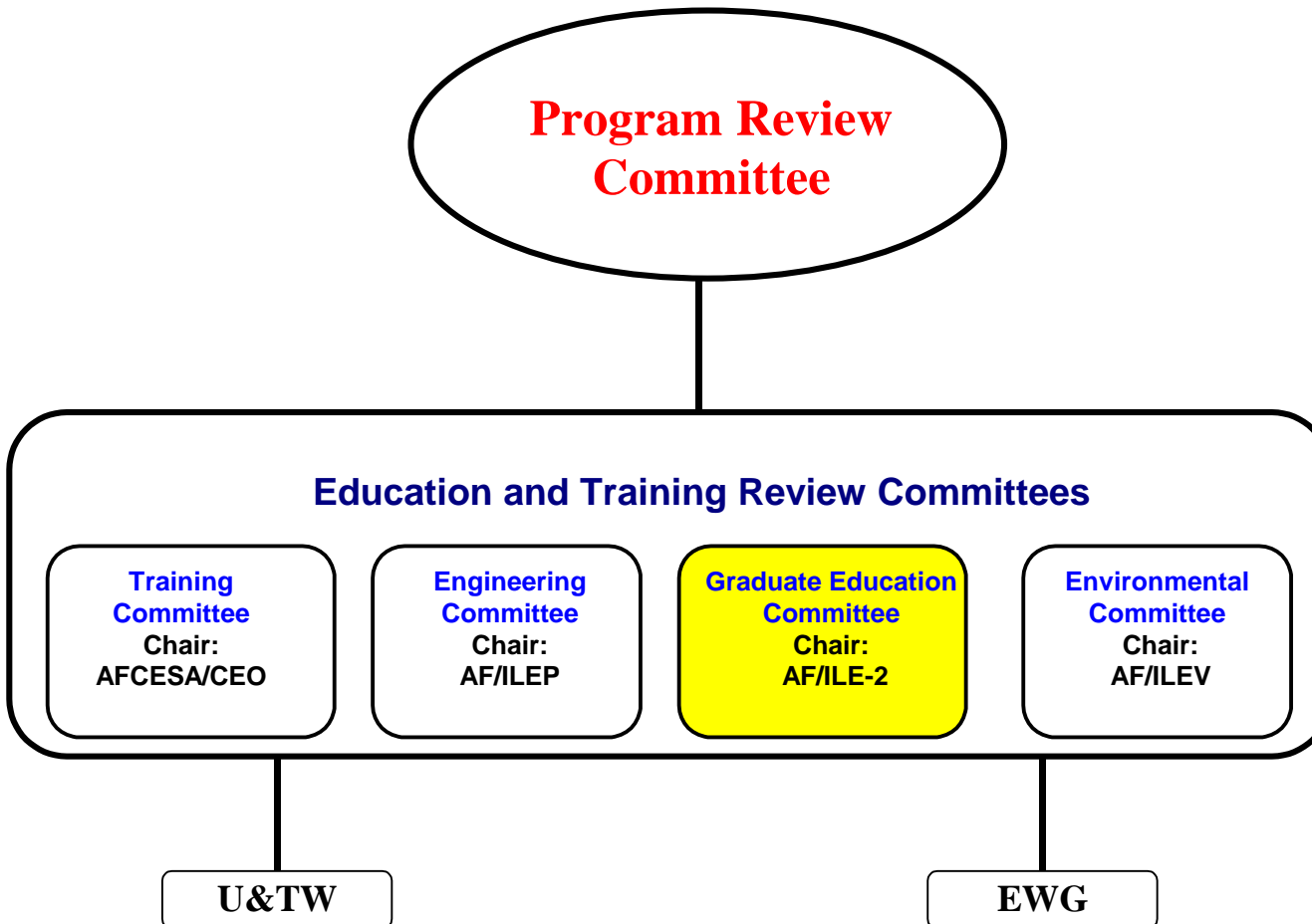
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Education and Training Review Process



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Program Review Committee





Education and Training Review Process

- **Education Working Groups ➡ Eng & Env ETRCs**
 - Detailed look at Civil Engineer and Services School (CESS)

- **Utilization and Training Workshops ➡ Env & Train ETRCs**
 - In-depth view of training provided by 366 TRS, 312 TRS, and USAFSAM/BE



Education and Training Review Process

- **Education and Training Review Committees (ETRCs)
(Engineering, Environmental, Training, and Grad Ed)**
 - **Evaluate respective programs**
 - **Ensure they meet the needs of the CE career field**
 - **Make recommendations to the PRC**



Education and Training Review Process

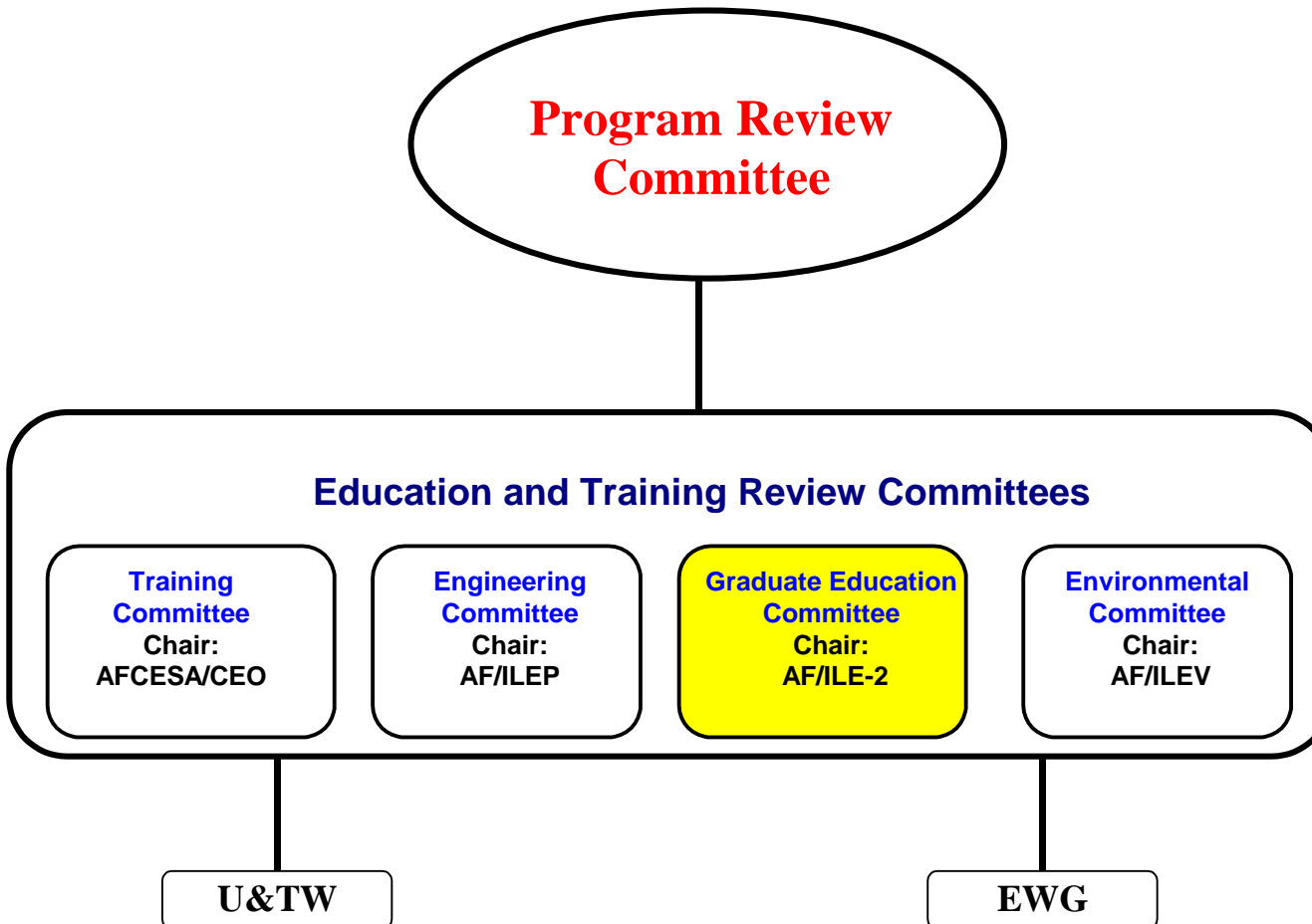
- **Program Review Committee**
 - **General oversight for the entire education and training program**
 - **Directs actions for impacting the plans and programs**

- **PRC scheduled for 28 Jun 01, Hurlburt AFB**



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Program Review Committee





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Air Force Education and Review Board (AFERB)



Graduate Education Management System (GEMS)

The Objectives

- **Governed by Title 10 U.S.C. 2005; DoD Directive 1322.10, Policy on Graduate Education for Military Officers and AFI 36-2301, Professional Development**
 - **Graduate Education program: designed to manage limited resources and support Air Force strategic objectives for Global Reach and Global Power in an increasingly complex environment of science and technology**
- **PCE program: designed to meet requirements for specialized knowledge needed to improve the performance of personnel in their present duties or to prepare them to assume greater responsibilities**



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Grad Education Process

- **AAD Position Validation (Mar)**
 - Proposed by Unit; Validated by Command; Filled from Inventory or New Graduate (Quota)
- **AAD Quota Request (Mar-Jul)**
 - Proposed by Unit; Validated by Command; Approved by AFERB
- **AAD Quota Selection and Fill (Oct)**
 - Directed by AFERB; Selected and Executed by AFIT and AFPC
- **AAD Position Selection and Fill (Feb)**
 - Requested by Command; Selected and Assigned by AFPC from Inventory or New Graduate (Quota) Pipeline



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FY02 Grad Ed Results

- **FY02 allocation of 822.4 student man-years**
- **1188.39 student man-years requested by field; required reduction of 365.99 student man-years**
 - **738.05 student man-years requested in “Regular” programs**
 - **450.34 student man-years requested in “Special” programs**
- **The Results: 822 student man-years approved by FY02 AFERB Working Group**
 - **430.25 student man-years in “Regular” programs; 58% of req’ts**
 - **391.75 student man-years in “Special” programs; 87% of req’ts**



Grad Ed Results-- the reductions

- **“Special” Programs cut by AFERB Working Group; all programs were baselined to FY01:**
 - USAFA AOC Program -- 0 of 8 requested student man-years
 - USAFA GSP -- 10 of 35 requested student man-years
 - Education with Industry -- 20 of 31 requested student man-years

- **“Regular” Program reductions**
 - Science and Engineering -- 20 student man-years
 - Financial Management -- 25 student man-years
 - Operations Research -- 50 student man-years
 - Communications -- 42 student man-years
 - **Civil Engineering -- 68 student man-years**
 - Weather -- 68 student man-years



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FY02 AAD AFERB Results

MAJCOM/FOA	OFFICER INVENTORY	AAD INVENTORY	CALL	APPROVED QUOTA
ACC	322	41	11	3
AETC	161	30	1	0
AFCEE		18	13	3 *
AFCESA		2	2	1
AFMC	158	24	5	3
AFSOC	13	2	0	0
AFSPC	91	12	7	3
AMC	148	37	11	3
USAF	70	11	0	0
PACAF	182	16	11	3
USAF A		18	0	0
USAFE	118	7	7	3
Miscellaneous	<u>86</u>	<u>5</u>	<u>0</u>	<u>0</u>
	1425	223	68	22

* Includes 1 PhD



AFERB Summary

Points of Interest

- **“Senior Leadership” Guidance**
 - **Strong push to fill S & E quotas**
 - **Focus on “high tech” degrees vice “soft core”**
 - **Send more direct accessions (ROTC, OTS and USAFA) to fill grad ed seats at AFIT**
 - **Better tracking/utilization of graduates by AFPC**
 - **Possible use of civilians against grad ed student man-years; starting with FY01 execution cycle**
 - **Reengineering of GEMS; “inventory management system” vice “billet management system”**
 - **Scrub forthcoming of AAD coded positions**



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Program Review Committee (PRC) Action Item



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PRC Action Items

- **Number: 2000-6**
- **Description: Convene working group to develop a long-term strategy for educating and training CE officers.**
- **OPR: AFCESA**
- **OCR: ILEX, AFIT, AFSOC, and ILEV**
- **Status: Open. Working group convened 3-5 Oct 00. Minutes were published on 7 Nov 00. AFCESA will send minutes to MAJCOM/CEs for review/comment and the present findings at the 2001 PRC.**
- **ECD: Jun 01**



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Graduate Education Committee Action Items



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GEC Action Items

- **Number: 2000-1**
- **Description: MAJCOM/FOA Grad Ed Committee representatives will review letter and list of selected officers who will receive them.**
- **OPR: ILEXO**
- **OCR: MAJCOMs**
- **Status: Closed. Letter and list e-mailed to representatives on 25 Jan 01.**
- **ECD: Jan 01**



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GEC Action Items

- **Number: 2000-2**
- **Description: Examine the feasibility of Guard and Reserve forces attending the AFIT program.**
- **OPR: ILEXO**
- **OCR: AFRC and ANG**
- **Status: Open**
- **ECD: May 01**



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GEC Action Items

- **Number: 2000-3**
- **Description: Develop a policy letter supplying supplemental guidance on coding AAD billets for MAJCOMs**
- **OPR: ILEXO**
- **OCR: MAJCOMs**
- **Status: Open. Draft policy letter included in minutes for MAJCOM review. Awaiting release to coincide with AF/DPDE's call memo for ADD requirements (scheduled release of 30 Mar 01).**
- **ECD: Jul 01**



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GEC Action Items

- **Number: 2000-4**
- **Description: AFIT will provide update to MAJCOMs on GEEM program curriculum changes and review**
- **OPR: AFIT/ENV**
- **OCR: ILEXO**
- **Status: Open**
- **ECD: Jun 01**



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GEC Action Items

- **Number: 2000-5**
- **Description: Examine methods of distributing the research topics and thesis efforts to the CE community**
- **OPR: AFIT/ENV**
- **OCR: ILEXO**
- **Status: Open**
- **ECD: Jun 01**



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GEEM Program Brief



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MAJCOM/FOA Inputs

- **Proposal to change GEEM name and program (ACC)**
- **Proposal to include USAFA Civil Engineering and Environmental Engineering Programs in the Grad Ed Committee (USAFA/DFCE)**
- **Proposal for CE AAD Selection Board (ILEXO)**



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General Discussion

Headquarters U.S. Air Force

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Graduate Education Committee

Major Anthony Ordner

AF/ILEXO

13 Mar 01



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2000 CE WORLDWIDE ACTION ITEMS

■ 00 - 05

■ Identify ways to increase CE officer participation in the GEEM program and develop a plan of action.

Specifically look at:

- AFIT eligibility requirements**
- Perception of AFIT as a “quality degree”**
- A “CE Magazine” article on GEEM**
- Others?**

■ OPR: AF/ILEX

■ OCR: AFCESA, AFMC/CE, AFIT/ENV



2000 CE WORLDWIDE ACTION ITEMS

- **00 - 05 (con't)**
- **STATUS:** Efforts thus far produced a favorable CGO response in applications and should fill all FY01 quotas in the GEEM program. Efforts included:
 - ILE memo to ALMAJCOM/CE (6 Nov 00)
 - ILE memos to academically eligible CGO candidates (2 Jan 01)
 - Every applicant's eligibility requirements are reviewed by AFIT/ENV on a case by case basis
 - Future plan includes:
 - AFIT/ENV initiated a thesis topic to study the perception issue
 - AFIT/ENV is drafting an article for the Summer CE Magazine
 - Considering more CI slots (Georgia Tech's program)
 - Considering direct accession participation
 - Considering civilian participation
- **ECD: 1 Mar 01**



Graduate Engineering and Environmental Management

Lt Col Alfred E. Thal, Jr.

Assistant Professor, Engineering and Environmental Management
Graduate School of Engineering and Management
Air Force Institute of Technology



OVERVIEW

- Program history
- Curriculum review for GEEM program
- Research visibility
- Program perceptions



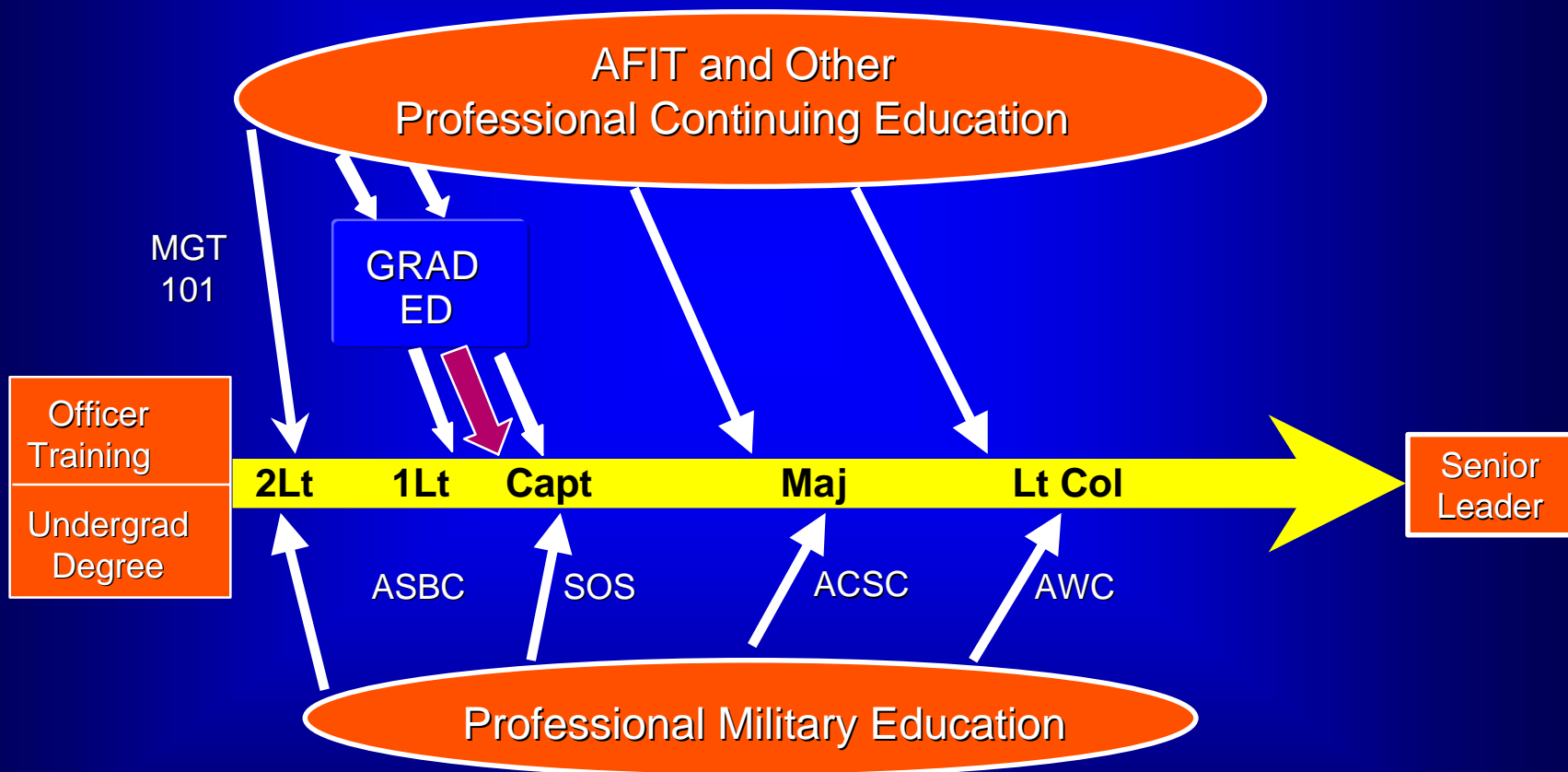
Program History

- 1971: Civil engineering career field established Facilities Management Program
- 1980: Program re-named Graduate Engineering Management (GEM)
- 1991: Program re-named Graduate Engineering and Environmental Management (GEEM)
- 1996: 15-month program changed to 18-months
- Accredited by the North Central Association of Colleges and Schools

Program has graduated 644 students



Civil Engineer Officer Development





GEEM Program Mission

“Provide Air Force Civil Engineer career professionals with Air Force relevant graduate education in the management of technical/ organizational resources and environmental programs consistent with future duties across the spectrum of the CE mission.”



Curriculum Review

- GEC Action Item 00-04
- Reviewed curriculum from leading programs across nation
 - Programs reflected a wide variety
 - Programs also showed some common themes
 - ✓ Analytical tools
 - ✓ Project management
 - ✓ Managerial accounting/economics
 - ✓ Strategic planning/management
 - ✓ Organizational structure/behavior



GEEM Program Core Courses

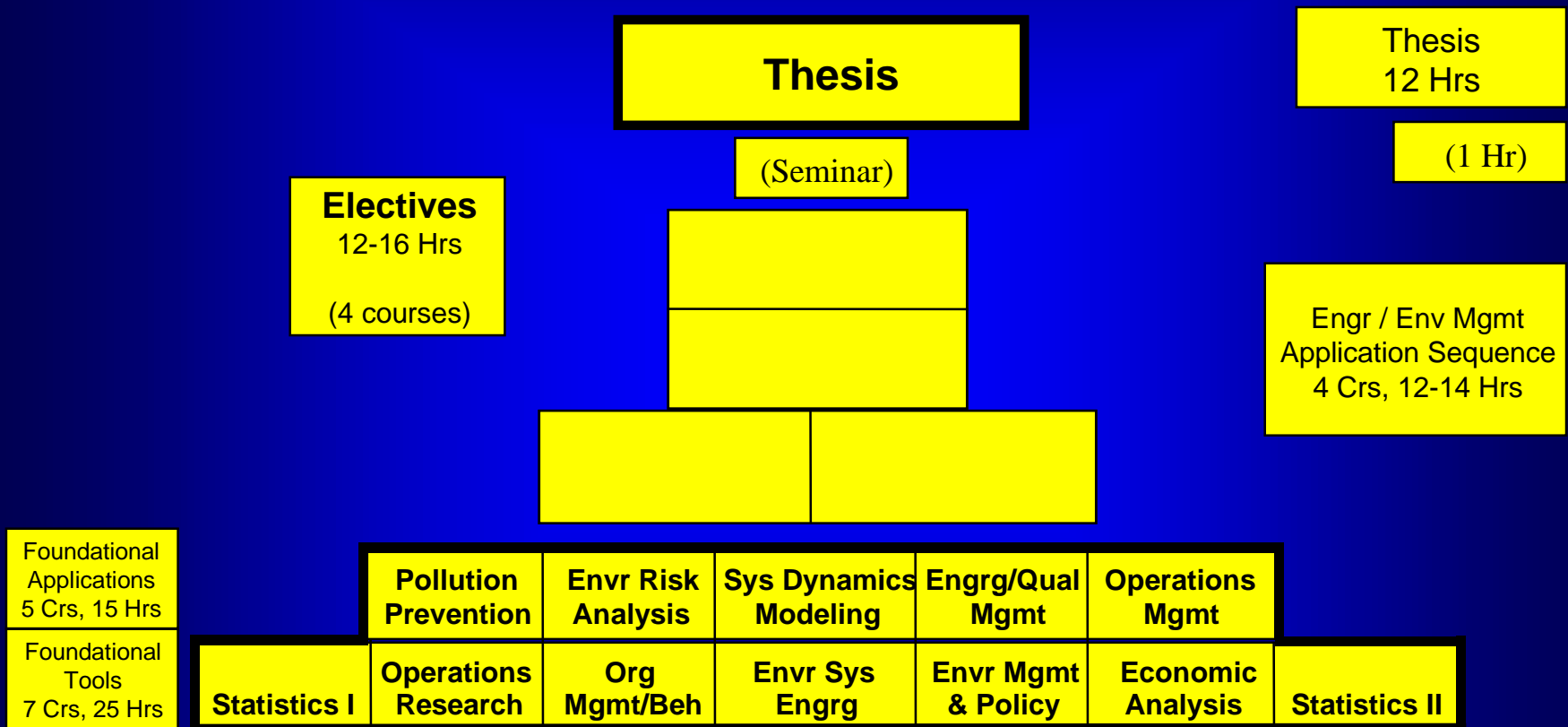
	Pollution Prevention	Envr Risk Analysis	Sys Dynamics Modeling	Engrg/Qual Mgmt	Operations Mgmt	
Statistics I	Operations Research	Org Mgmt/Beh	Envr Sys Engrg	Envr Mgmt & Policy	Economic Analysis	Statistics II

GEEM core is typical of any engineering management degree.

Environmental courses are included because of career field's concerns and because environmental issues are a weakness in many undergraduate degrees.



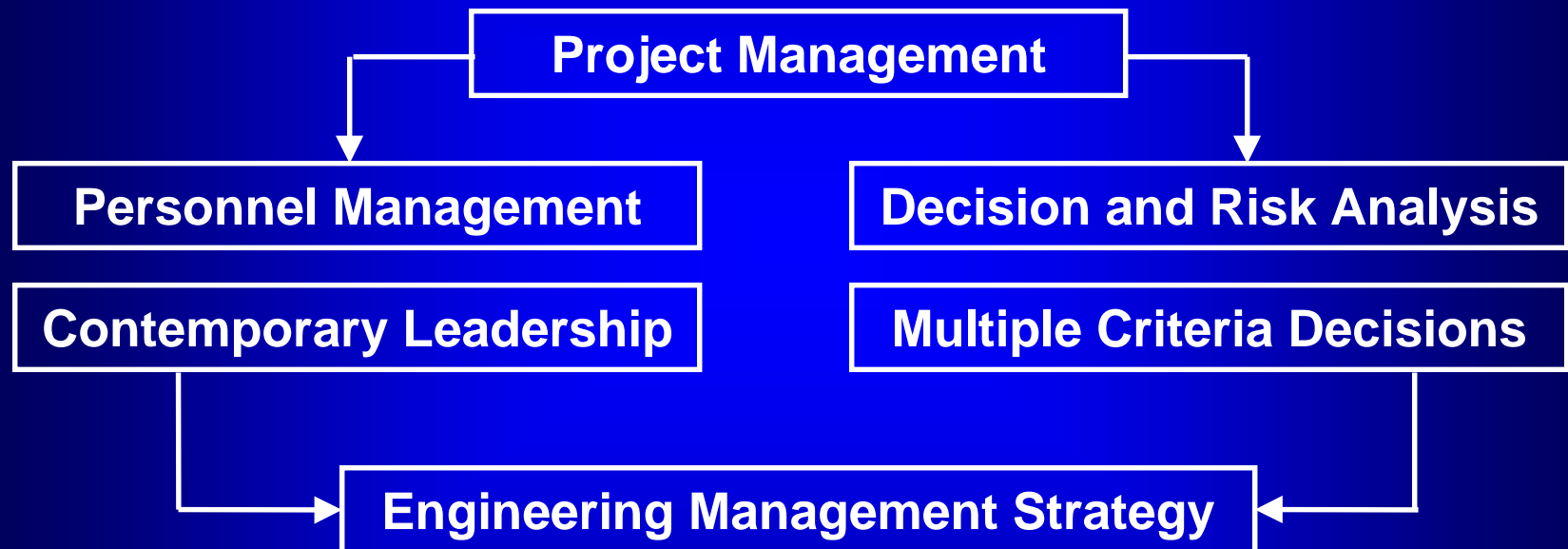
GEEM Program



COMMON CE CORE (12 courses / 40 hours)



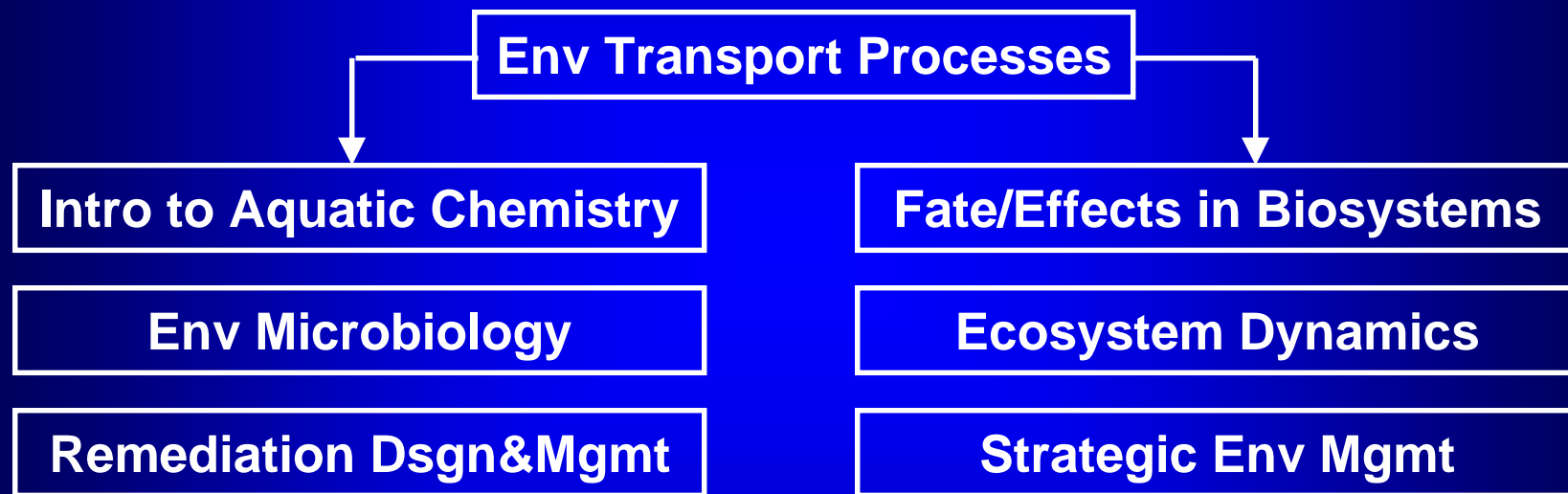
Engineering Management Application Sequences



Typical Electives: Org Policy & Strat Mgmt, Contract Negotiation, Research Methods, Advanced Decision Analysis, Forecasting Mgmt, Business Process Improvement



Environmental Management Application Sequences



Typical Electives: Solid/HW Mgmt, Groundwater Hydrology/Modeling, Env Monitoring, Numerical Methods, Organic Chemistry, Technical Communication, FORTRAN Programming, Physiology & Toxicology, Decision Analysis, Multiple Criteria Decisionmaking



Curriculum Strengths

- Based on customer requirements and strict graduate school standards (breadth & depth)
- Focuses on policy and procedures specific to the Air Force
- Highly interdisciplinary (strong inter-departmental support)
- Offers student flexibility in developing customized professional management and technical skills



Research Visibility

- GEC Action Item 00-05
- Generation of thesis topics
 - Call letter sent out on 5 Oct 00
 - More names/offices will be added to distribution
- Visibility of research results
 - Email abstracts to MAJCOM/CE
 - Update web pages
 - Short announcement in “The CE” magazine



Program Perceptions

- CE Worldwide Action Item 00-05
- Eligibility requirements
 - Undergrad overall 3.0 GPA and math 2.5 GPA
 - Differential equations and chemistry
 - GRE scores of 600(Q)/500(V)
 - Waivers considered on case-by-case basis
- “Quality degree” – student thesis
- Publicity and support are the keys

BULLET BACKGROUND PAPER
ON
CHANGING AFIT GRADUATE EDUCATION DEGREE PROGRAM

PURPOSE

Change the AFIT Graduate Education Degree Program from “Engineering and Environmental Management” (GEEM) back to “Engineering Management”

BACKGROUND

- Mid 80’s, the Air Force needed to develop environmental expertise to handle the growing environmental challenges in the Air Force
 - Changed focus from Operations Management to Environment and expanded quotas
- Quotas have been difficult to fill in recent years

DISCUSSION

- The requirement for CE officers is to manage engineering, construction, environmental, and operations
 - De-emphasize Environmental and Engineering Management by balancing the curriculum for all Engineering Programs
 - Provide a focus on infrastructure and a renewed emphasis on Civil Engineer Operations as well as maintain the right level of environmental topics
- FY00 Graduate Education Committee (GEC) – Reviewed on 4 Apr 00
 - HQ AETC and AMC were concerned with GEEM program potentially having too much environmental emphasis

SUMMARY

HQ ACC/CE believes the Graduate Education Committee should review the GEEM program and refocus it towards Engineering Management

Mr. Johnson/HQ ACC/CEOS/574-3212/26 Feb 01

BULLET BACKGROUND PAPER
ON
USAFA PROGRAMS

PURPOSE

To propose inclusion of USAFA's Civil Engineering and Environmental Engineering Programs in one of the current committees of ETRC; and describe what actions USAFA is looking to accomplish through participating in ETRC/PRC.

DISCUSSION

- Background
 - USAFA Department of Civil and Environmental Engineering offers two ABET (Accreditation Board for Engineering and Technology) accredited undergraduate programs: Civil Engineering and Environmental Engineering
 - Both programs were accredited in 1996, and next visit is scheduled in the Fall '02
- New Engineering Criteria (EC) 2000
 - Requires engineering programs to implement a "continuous improvement" process – must demonstrate practice of assessment process to measure success of stated goals and objectives
 - Program goals and objectives are derived based on the mission of the institution and the needs of the constituents (customers), i.e., the Air Force Civil and Environmental Engineering community for USAFA programs
- Proposal: ETRC/PRC as the programs' "Advisory Board"
 - Review and validate the current program operational goals (POGs) (Atch)
 - Recommend modification(s) to POGs in sync with the current and future needs of the Air Force Civil and Environmental Engineering community

SUMMARY

Recommend inclusion of the USAFA's Civil Engineering and Environmental Engineering programs into the Graduate (name changed to Academic) Education Committee; PRC as the Advisory Board to review and validate POGs every other year.

Atch:
Program Operational Goals

The Program Operational Goals (POGs) for the Civil Engineering and Environmental Engineering programs flow from and support the overall mission of the Air Force Academy as well as the more specific missions of the Dean of the Faculty and the Department of Civil and Environmental Engineering within the Air Force Academy. This progression is shown below.

USAF Academy Mission Statement

To inspire and develop young men and women to become Air Force Officers with knowledge, character, and discipline; motivated to lead the world's greatest aerospace force in service to the nation.

Dean of the Faculty Mission Statement

To inspire and educate cadets and faculty to serve our nation with integrity in peace and war.

Educational Outcomes: To produce officers who

- Possess breadth of integrated, fundamental knowledge in the basic science, engineering, the humanities, and social sciences, and depth of knowledge in an area of concentration of their choice.
- Are intellectually curious.
- Can communicate effectively.
- Can frame and resolve ill-defined problems.
- Can work effectively with others.
- Are independent learners.
- Can apply their knowledge and skills to the unique tasks of the military profession.

Department of Civil and Environmental Engineering Mission Statement

Build and maintain nationally accredited undergraduate civil and environmental engineering programs, showing clear linkage of the educational experience to the operational Air Force, and fostering in cadets the Academy's core values—integrity first, service before self, and excellence in all we do. Encourage faculty involvement in other Academy mission elements, to include the Training Wing and Athletic Department.

Program Operational Goals (Civil Engineering Program)

Produce officers who:

1. Possess breadth of integrated, fundamental knowledge in the basic sciences, engineering, humanities, and social sciences; and depth of knowledge in Civil Engineering and broad knowledge in Environmental Engineering.
2. Can communicate effectively.
3. Demonstrate leadership and can work effectively with others.
4. Are independent, lifelong learners.
5. Can apply their knowledge and skills to frame and solve Air Force civil and environmental engineering problems.
6. Understand their ethical and professional responsibilities as embodied in the USAF core values.
7. Can function effectively in contingency operations.

Program Operational Goals (Environmental Engineering Program)

Produce officers who:

1. Possess breadth of integrated, fundamental knowledge in the basic sciences, engineering, humanities, and social sciences; and depth of knowledge in Environmental Engineering and broad knowledge in Civil Engineering.
2. Can communicate effectively.
3. Demonstrate leadership and can work effectively with others.
4. Are independent, lifelong learners.
5. Can apply their knowledge and skills to frame and solve Air Force civil and environmental engineering problems.
6. Understand their ethical and professional responsibilities as embodied in the USAF core values.
7. Can function effectively in contingency operations.

BULLET BACKGROUND PAPER

ON

PROPOSAL FOR CE ADVANCED ACADEMIC DEGREE SELECTION BOARD

PURPOSE

To improve participation within AFIT in-residence or civilian institute advanced academic degree (AAD) programs and ensures the process selects the most highly qualified CE officers

BACKGROUND

- Officers interested in obtaining an AAD through AFIT have decreased over the past few years. This proposal serves to elevate program prestige and increase the number of qualified CE candidates considered for selection and participation in an Air Force sponsored AAD

DISCUSSION

- AFIT provides a unique opportunity for selected company grade officers to obtain an advanced academic degree while in residence or at a civilian institute
- The proposed nomination process is designed to heighten visibility, enhance prestige, and increase the pool of interested officers. Proposal is as follows:
 - Nomination (May/Jun). MAJCOM/FOA's will nominate 8 percent (minimum of one) of their officers not possessing a master's degree for this program. Total nominations will be equal to at least twice the number of AFERB approved quotas for the FY
 - Consider target group having 3-5 years of commissioned service (group most likely to not have a master's degree)
 - Eligibility Evaluation (Jun). AFIT/ENV evaluates nominees for academic eligibility and AFPC/DPASB evaluates for TOS criteria. Early screening allows ineligible nominees an opportunity to qualify academically by taking necessary undergraduate courses and the GRE
 - Selection (Dec/Jan). Graduate Education Committee selects primary and alternate eligible candidates. Non-selected candidates remain eligible to meet the selection board for the next three years
- Raise awareness through CE magazine articles, active senior leadership involvement, personal memos, and expanded civilian institution opportunities

SUMMARY

Proposed process will be considered and expanded at the 2001 Graduate Education Committee in order to be presented for approval at the 2001 Program Review Committee



DEPARTMENT OF THE AIR FORCE
HEADQUARTERS UNITED STATES AIR FORCE
WASHINGTON DC

MEMORANDUM FOR ALMAJCOM/CE
HQ USAFA/CE
HQ AFCESA/CC
HQ AFCEE/CC

29 MAR 2001

FROM: HQ USAF/ILE
1260 Air Force Pentagon
Washington DC 20330-1260

SUBJECT: Guidance for Advanced Academic Degree (AAD) Billets

According to draft Air Force Instruction 36-2302, *Professional Development (Advanced Academic Degrees and Professional Continuing Education)*, which is in coordination and expected to be published this spring, commanders are responsible for identifying AAD requirements needed to support the Air Force mission using the guidance provided by AF, FOA and MAJCOM functionals. Attachment 1 is the AAD coded position guidance for the civil engineer community. Please have your training managers apply this guidance when responding to the FY03 Air Force Education Requirements Board (AFERB) data call and AAD validation memo from HQ USAF/DP dated 16 Mar 01 (Attachment 2). We will e-mail the AF/DP memo's five attachments directly to your training managers.

If your staff needs additional information, please have them contact Maj Anthony Ordner, HQ USAF/ILEXO, DSN 664-4747, e-mail: anthony.ordner@pentagon.af.mil.

EARNEST O. ROBBINS II
Major General, USAF
The Civil Engineer
DCS/Installations & Logistics

Attachments:

1. CE AAD Guidance
2. HQ USAF/DP Memo, 16 Mar 01

Civil Engineer Advanced Academic Degree (AAD) Guidance

- AFI 36-3202, *Professional Development (Advanced Academic Degrees and Professional Continuing Education)* provides the following instructions:
 - AAD positions form the basis of the AF funded graduate education program
 - A position validated as requiring an AAD means the incumbent cannot optimally perform the job without the specific advanced degree
 - Graduates of the funded graduate education program will normally serve in an AAD position immediately following graduation, but must serve in an AAD position no later than the second tour following completion of the funded education
 - Officers in the rank of lieutenant colonel and above will not normally be considered for newly established degree requirements
- The Graduate Education Committee developed the following guidance for coding AAD positions for civil engineers:
 - Squadron level. One to three AAD coded positions would be located in the operations flight (maintenance engineer), environmental flight, and the engineer flight at the lieutenant and captain rank with emphasis on flight chiefs
 - MAJCOM level. AAD coded positions would be located in the operations, environmental, programming, engineering, and/or housing divisions at the captain and major rank
 - Air Staff and FOA level. AAD coded positions would be at the captain and major level and recognize unique advanced technical degrees at the FOAs
- Use an appropriate Academic Specialty Code (ASC) for each coded position. For example: 1AGE for environmental positions and 1AGA, 1AGY, 4HBY, or 4HJY for the engineering and operations positions. The ASCs will ensure a balanced requirement approach to covering the broad CE functional responsibilities
- Coding AAD positions in this manner will provide consistency and accuracy as well as greater flexibility in managing the career field by generating valid AAD requirements and providing a wide range of assignment opportunities to the graduating officers



DEPARTMENT OF THE AIR FORCE
HEADQUARTERS UNITED STATES AIR FORCE
WASHINGTON DC

MEMORANDUM FOR SEE DISTRIBUTION

FROM: HQ USAF/DP
1040 Air Force Pentagon
Washington DC 20330-1040

SUBJECT: FY03 Air Force Education Requirements Board (AFERB) Data Call and
Advanced Academic Degree (AAD) Validation

This memorandum initiates the process for requesting your input (data call) for the Air Force Education Requirements Board (AFERB) for FY03 submissions for both Advanced Academic Degree (AAD) and Professional Continuing Education (PCE). New guidance this year includes detailed instruction on how to validate the need for covered positions. Replies (email and hard copy) for both Grad Ed and PCE are required and due not later than 15 June 2001. All submissions must be coordinated through the respective Academic Specialty Monitors (ASM) prior to sending to AF/DPDEE. Late submissions will not be accepted without complete and detailed justification.

Coded AAD positions are those covered positions requiring an advanced academic degree to perform the mission. Attachment 1 can assist with your position validation prior to determining FY03 requirements (please provide your MAJCOM CV letter certifying each position as mission essential at the same time your command submits its quota request). Attachment 2 contains a listing of all AAD positions within your command.

The command Director of Personnel can assist leading this validation and certification process. ASMs can be very helpful with validation. ASMs are mostly Air Staff functional experts and represent specific academic specialties at the AFERB. An ASM listing for each Academic Specialty Code (ASC) for all covered positions, along with PCE POC information is at Attachment 3.

This memo also initiates the process for determining Professional Continuing Education (PCE) requirements for FY03. Attachment 4 contains a listing of all PCE courses baselined to FY02. MAJCOM POCs are responsible for requesting needed quotas for these courses. PCE POCs must be prepared to defend requests for additional quotas before the AFERB. Submit requests for baseline or increased quotas through the MAJCOM CV.

Submission format (electronic required and paper optional) for both AAD and PCE is at Attachment 5. Please note that submissions will only be accepted using the required format and coordinated through the appropriate ASM (or PCE POC, as appropriate).

The AFERB Working Group is tentatively scheduled to meet in the Pentagon from 10 - 12 Oct 01, followed by the AFERB Executive Board shortly thereafter. Specific details will be provided as the time draws nearer. AF POC is Ron Riggi, DSN225-0377 (email: Ron.Riggi@Pentagon.af.mil).

Attachments:

1. Advanced Academic degree Processes
2. MAJCOM/FOA/DRU AAD Position List
3. Academic Specialty Monitor Listing
4. FY01 AFERB Approved PCE - FY03 Baseline
5. Data Call Submission Format

DISTRIBUTION:

See Attached List

DISTRIBUTION LIST:

ALL MAJCOM DRU/FOA/CVs

ALL MAJCOM DPs

ALL AIR STAFF 2 letters

ALL ASMs and PCE POCs

AFGOMO

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